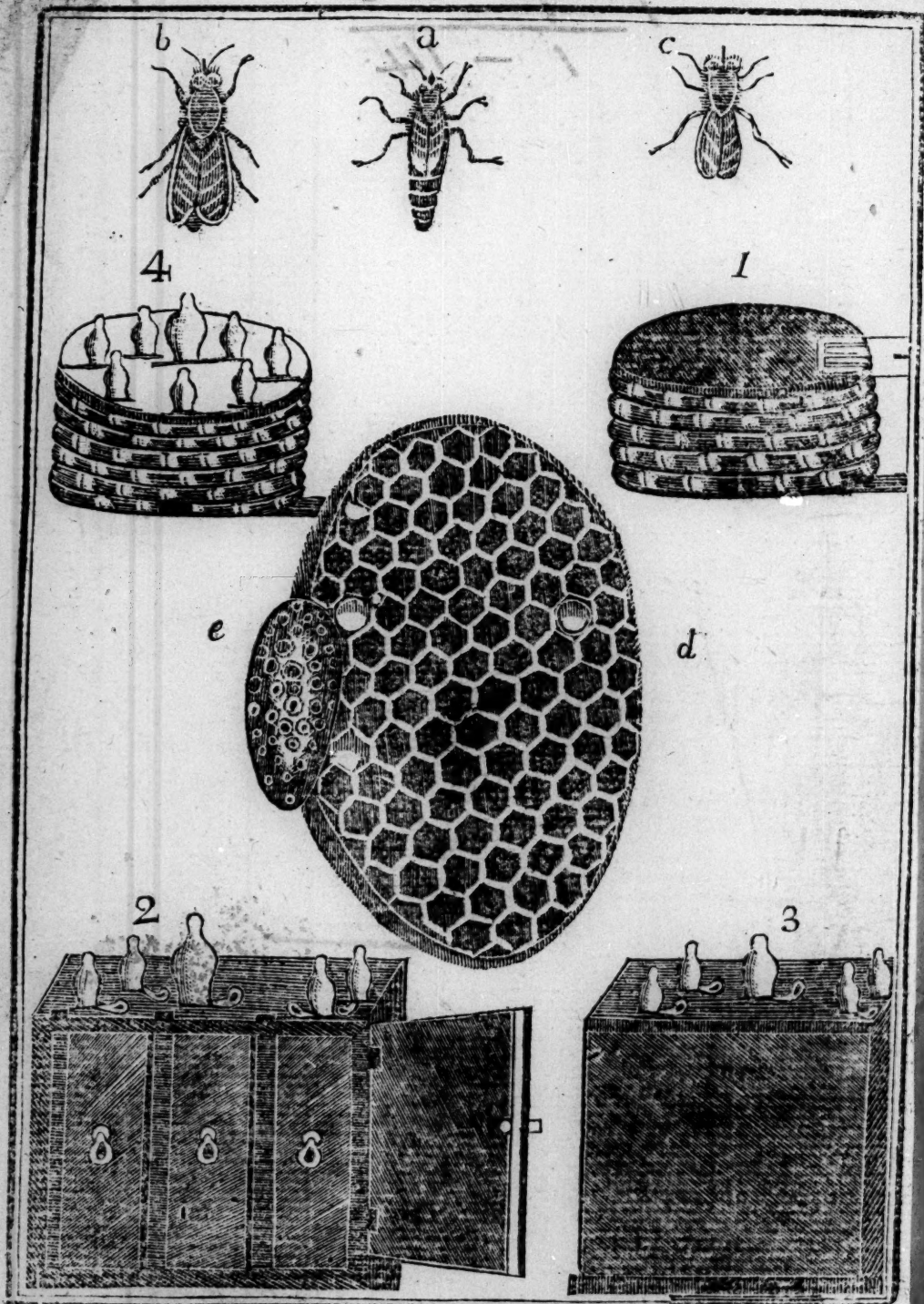


a The Queen Bee. b The Drone. c The Working Bee. d The Honey Comb.
e The Queen's Cell.

- No. 1. The flat-topped Straw Hive with Slider.
 2. The Mahogany Hive with Partitions and Glässes.
 3. The Mahogany Hive with Glässes on the Top, without Partitions.
 4. The flat-topped Hive, with Glässes only.



a The Queen Bee. b The Drone. c The Working Bee. d The Honey Comb.
e The Queen's Cell.

- No. 1. The flat-topped Straw Hive with Slider.
 2. The Mahogany Hive with Partitions and Glässes.
 3. The Mahogany Hive with Glässes on the Top, without Partitions.
 4. The flat-topped Hive, with Glässes only.

7298.d.3

1 - 14.

A

COMPLETE GUIDE

FOR THE

MANAGEMENT


OF

B E E S,

Throughout the YEAR;

CONTAINING

- | | |
|--|---|
| 1. A Description of the Queen Bee. | 7. Of the Enemies and Sickneses incident to Bees. |
| 2. The Generation of Bees. | 8. Of Feeding them in the Winter Season. |
| 3. Of the Drones. | 9. Explanation of the new-invented Hives, with proper Directions in what Manner they are to be made use of. |
| 4. Of the proper Situation for a Bee house. | |
| 5. The proper Method of Swarming and Hiving. | |
| 6. Of separating the Honey and Wax. | |

By DANIEL WILDMAN,
At his House, No. 326, HOLBORN. 

——— So work the Honey-Bees ;
Creatures that, by Rule in Nature, teach
The Art of Order to a peopled Kingdom.
SHAKESPEAR.

L O N D O N :

Printed for the AUTHOR, and Sold by him at his
House, No. 326, HOLBORN.

M,DCC,LXXV.

COMPLETE GUIDE TO THE MANAGEMENT OF THE BEEHIVE

Throughout the Year;

CONTAINING

A full and complete description of the various kinds of bees, and the manner of their management, together with the most approved method of increasing their number, and of obtaining the most profitable use of their honey and wax. Also, the most approved method of preventing the various diseases to which they are subject, and of curing them when they do occur. The whole is illustrated by numerous engravings, and is adapted for the use of the amateur as well as the professional beekeeper.



BY DANIEL WILDMAN,
At the House No. 22, Holborn.

— To work the Honey-Bees;
— To prevent the loss of the bees;
— To prevent the loss of the honey;
— To prevent the loss of the wax;
— To prevent the loss of the bees;
— To prevent the loss of the honey;
— To prevent the loss of the wax;
— To prevent the loss of the bees;
— To prevent the loss of the honey;
— To prevent the loss of the wax;

LONDON:

Printed for the Author, and Sold by him at his
House, No. 22, Holborn.

M.DCCCXXXV.

INTRODUCTION.

THE following Pages would never have made their Appearance in Public had it not been at the earnest Sollicitation of several Gentlemen and Ladies who have made the Management of Bees their peculiar Study and Entertainment, and who, on favouring me with their Commands for my new invented Hives have frequently hinted to me that a Treatise on my own peculiar Method with an Explanation of the Use of the Mahogany and Glass Hives would meet with a favourable Reception at their Hands. The Obligations I think myself

2

myself under to my numerous Encouragers have induced me thus far to point out the most rational and beneficial Manner of managing Bees; And I hope that Part of my Readers for whose Use it is principally designed, will kindly accept my Endeavours to satisfy them on this Subject.

That the Majesty of our Almighty Maker is manifested in every created Being is a Fact absolutely indisputable; but that it is more peculiarly so in the Insect which is the Object of the present Discourse, must be allowed by every one who will give themselves Time to reflect upon the nice geometrical Proportions, obvious to every curious Observer, in which the Bees so wonderfully display their architectural Skill in the Formation of their Sexangular Comb; nor is their well-regulated System of Government, their Labour, and every Property with which they are endued less deserving our Admiration.

To

To expatiate upon the Excellency of Bees, their Name, Definition, Description, Politicks, &c. would require much more Room than a Pamphlet of this Size and Price will admit of; and as these Particulars have been treated of at large by others, I shall only quote their Opinions where they coincide with my own, and principally confine myself to the following particular Heads.

1. Of the Queen Bee.
2. Of the Generation of Bees.
3. Description of the Drones.
4. Of the proper Situation of the Bee-House.
5. Of the proper Method of swarming and hiving.
6. Of separating the Honey and Wax.
7. Of their Enemies and Sickneſſes.
8. Of

8. Of feeding them in the Winter Season.

9. An Explanation of the Mahogany, Glas and other Hives, with plain and full Directions for the proper Use and Management of them, exemplified by References in the Frontispiece.

C H A P.

CHAP. I.

Of the Queen Bee.

THE Queen-Bee is considerably longer than the common Honey-Bee, and rather larger, but not so large as the Drone; her Shape and Colour are different from the Common-Bee, her Back is all over of a bright brown; her Belly even from the Top of her Fangs to the Tip of her Train is clear, beautiful and of a sad yellow, somewhat deeper than the richest Gold; her Head is rounder than the Honey Bee's, her Fangs shorter, and her Tongue not half so long, so that it would be impossible for her to provide Sustenance for herself as she would not be able to extend her Tongue into the deep Socket of the Flower were she ever so industriously inclined.

Her Wings are of the same Size with those of an ordinary Bee, therefore appear very short in Comparison with the Length of her Body; her nether Part is much longer and sharper than that of the Common Bee, having it in four Ringlets or Partings, and in each a Sort of gilded Bar instead of the whitish Ring-

B

lets

lets which are to be observed in other Bees who have likewise no more than three Partitions in that Part of the Body. Her Sting is very long but she is unwilling to put it forth. By the above Tokens the Queen may easily be distinguished from the other Bees.

Mr. Butler in his Account of Bees, relates the following Experiment of his own.

“ Two Swarms being put together, the
 “ Bees on both Sides made a murmuring
 “ Noise at first, as discontented; but growing
 “ Friends, and having agreed which Queen
 “ should reign, and which should die, three
 “ or four Bees brought one of them down
 “ between them as to Execution; she being
 “ taken from the Executioners, and put into
 “ the Hive again, the Tumult began afresh,
 “ and they continued fighting for an Hour,
 “ until the poor Queen was brought forth
 “ slain and laid before the Door.”

Pliny asserts that if the old Queen bring forth many Princes, lest the Multitude of Rulers should distract the Commonwealth, they kill the superfluous and cast them out of the Hive.

I have often taken Notice that an old Stock of Bees, in the Months of May or June shall have only one Queen, and at that Time, by searching the Combs, I have found two or three young Queens in different States, sometimes less but never more; the first just ready to come out of the Cell; the second in the shape of a Bee, but has been Three Weeks before

before it came to Perfection; the third appears as a Maggot, different to that of the Honey Bee, and in a royal Cell, and comes to Perfection in about five or six Weeks. I have further observed when the young Queens come to Maturity, they leave the Hive and go with the Swarm, from which it is evident that there is at no Time more than one Sovereign permitted in the Hive. Some Stocks of Bees will swarm two or three Times in a Season, other Hives will not swarm at all though well stocked with Bees; the Reason of which is, that the Queen has proved unfruitful and thro' Age or Weakness has bred no young Queens, and without a young Queen there can be no Swarm; and I have further observed that a Hive shall be well stocked with Honey and Bees, and nevertheless they will all die in the Winter, which is occasioned by the Loss of the Queen, for when that happens they will forsake the Hive, and neither work or eat, but fly about with a confused murmuring Noise, till the whole Hive is absolutely lost.

C H A P. II.

Of the Generation of Bees.

AS Authors have differed so greatly with regard to the Generation of Bees, I shall forbear to quote the Opinions of others on this Head, and content myself with some particular Observations, the absolute Result of my own Experience.

That they couple together I make not the least Doubt, though privily and apart by themselves, which whether it proceed from Modesty, or through the admirable Instinct of Nature, I shall not presume to determine; for though they were never observed so to join together, yet they certainly apply themselves to that Business secretly within their Hives, or else abroad where there can be no Witnesses.

I am fully convinced that the modern received Opinion that the Queen Bee is the general Parent of the whole Stock is absolutely without Foundation, which I shall endeavour to prove by the following Experiment which I have frequently made to discover a Mystery hitherto so uncertain.

I have a Method to make the Bees swarm, by which I have been clearly convinced that the Queen Bee is not the Breeder of the whole Stock. When an old Hive has been well stocked with Bees and I was in full Expectation

tion of their Swarming, I have found myself greatly disappointed, and could not tell in what Manner to account for it. To satisfy myself of the Reason, I took out all the Bees, and placing them on a Table, covered with a white Napkin, I moved them about gently with a Spoon, in Order to find out whether the young Queen was come to Perfection, but finding only one Queen, I immediately searched the Hive and found a young one in her Cell almost ready to come out; and (which more evidently proves that the Bees are not all produced by the Queen-Bee) I have several Times cut out the Comb to which the young Queen's Cell was fixed, and stuck it up in another Hive, putting a sufficient Quantity of Bees with it, and observed at the same Time that there were no young Bees in the other common Cells. Being fond of trying Experiments, at the End of three or four Days, I took the same Bees out of the Hive again, in Order to see if the young Queen was come to Perfection, but I found she was only then breaking out of her Cell, in the Manner a young Bird breaks from the Egg, when the Time of its Continuance in the Shell is expired; upon this I searched several other Combs which were built in the Hive, and observed young Bees in almost every Cell, which is a sufficient Proof that the young Queen could not have lodged them in those Cells, as at that Time she was not come to Perfection herself.

From

From this Experiment it is evident that the Swarm was satisfied till the young Queen came to Maturity, and that the young Bees must have been produced by the working Bees and the Drones which I shall more fully explain in the next Chapter.

C H A P. III.

Of the Drones.

THE Drone is a large Bee without a Sting; some are of Opinion that he is made of a Honey Bee that has lost her Sting; but this is erroneous, for no Person ever saw that a Honey Bee became a Drone.

Many Reasons are alledged to prove the Drone to be the Male: 1st. Because, notwithstanding they are great Wasters of Honey, yet the Bees suffer them to remain quiet, till they leave off breeding, and have conceived for the next Year, afterwards they begin to beat them away, which if they did not, the Drones would of themselves naturally die before October, and from thenceforth all the Winter, untill the Bees breed again, there is not a Drone to be seen. When they are quite gone the Bees breed no more that Year, but only hatch those that are in the Cells.

2dly.

2dly. Because the more the Drones are, the greater are the Swarms; and the fewer they are in Number the less Honey will your Hive produce; though this may not seem reconcileable to Reason it is an absolute Fact; for if you kill the Drones of a Hive before they have done swarming and breeding, the Swarms will not come forth that were formerly bred, nor will the Stock breed any more; for the Bees continuing to bring in their Bee-bread as much as before, and having no young ones to consume it, they lay it up carelessly in their Cells, and take a Dislike to it; and if you should be lucky enough to preserve them till their Time of breeding begins, yet even then, finding themselves barren, they will forsake the Hive, and mingling with strange Bees, go away with them to their Drones. By this I am convinced that the Bees do breed as well Drones as Honey Bees every Year, and as there is not the least Doubt that the Honey Bees are Females, it follows of Course that the Drones are the Males of the same Kind.

When the old Bees have ended their first Brood of Females they then breed the Male Bees or Drones, in the Drone Comb, of which there is one and no more in every Hive.

The Drones are liberally provided for the whole Summer, but when the Swarms are discharged, and on the Approach of Autumn, there appears to be neither Time nor Warmth sufficient to rear a new Family, then they begin to persecute the Drones; they are looked
upon

upon as useless and chargeable to the Community, and are no longer suffered to continue in the Hives; they are ejected and killed both old and young.

I think it admits of no Doubt but that the Drones are the Males, from all the Reasons above cited, and more so from another Circumstance yet unnoticed, which is that upon the Dissection of the Body of a Drone, there is a very plain Demonstration that it has the most visible Marks of the masculine Gender.

I am likewise of Opinion that the Queen Bee, (so far from being the Mother of all) breeds none but Queens, and that she herself copulates with the Drones, as I have frequently observed in the Glass Hives, many of the Males attending her at the Times of her breeding, which is never more than twice or thrice in a Season, and which at other Times seem to pay less Respect to her than to the common Bees.

C H A P. IV.

Of the most proper Situation for a Bee-house.

THE most proper Station for Bees is in an open Sun-shiny Place, not subject to the Injuries of the Weather; it should be so contrived

contrived that the Door of the Hive may be somewhat to the South-West. Many indeed have prescribed that the Hives should be placed with their Mouths toward the East, that the Sun may shine on them in the Morning, and make the Bees more early to follow their Work; but upon Experience I would recommend the setting of them more towards the West, that being often late at their Work, they may have more Light (their Eyes being weak) to enter their Hives, and also that they be not prejudiced with the Easterly Winds, which are cold and hurtful. Some Bees will be late at their Work after Sunset, and if when they return they find it dark about the Hive, they must lie abroad if not altogether perish, which would be very often the Case if the Mouth of the Hive faced the East. It may indeed sometimes very properly face towards the South, but never on any Account towards the North. Let the Bee-house be near home for the better Opportunity of inspecting it, and in a sweet grassy Spot, not incommoded by the dropping of Water from the Eaves of Houses, Trees or Hedges. Smoke is also very offensive to Bees, therefore Care must be taken not to let them stand near Brick-kilns, Brewhouses, or any Place where a long continuing Smoak may beat down upon the Hive. Let your Bee Garden, or the Ground adjoining to it be planted with Plumb, Cherry, Apple, Pear, and Gooseberry Trees, and interspersed, with Beds of various Kinds of
C Flowers,

Flowers, such as Daffodils, Violets, Prim-roses, Stock Gilly-flowers, Strawberries, Broom, Sage, Marigolds, Archangel, Hawthorn, Elder, Dewberries, Origanum, Hyssop, Burrage, Parsley, Mustard-seed, Red Roses, Thyme, Penny-royal, Holyoak, Lavendar, Eyebright, &c.

Let the Grass before the Stools or Benches for some Distance at least be kept short with often mowing; long Grass and Weeds, are very prejudicial, for the young Bees falling on those shady Places (except the Weather be warm and dry) are in danger to be chilled before they are able to extricate themselves and to rise again.

The Ground should never be bare, for in Winter it will be wet and chill the Bees when they light on it, and in Summer dusty, by which their Feet being dew-clawed, will be so clogged that it will be out of their Power to rise at all.

Let them stand about eighteen or twenty Inches from the Ground, for if they are placed higher (as is too often the Case) they are more subject to the Violence of the Winds, for though they do very well abroad in Windy Weather, yet when they return home, especially in the Spring, they will be beaten down beside the Hive, and if there be a present Shower, or the Sun suddenly over-cast, they will quickly chill and perish.

Considering the ample Amends we receive from a proper Care of this laborious and useful

ful Insect, we cannot be too cautious in removing every Obstruction in our Power that can any way incommode them, especially in what may hinder their Working, by which we obtain such considerable Advantages.

Among the various Flowers already enumerated in which the Bees take the greatest Delight, I have mentioned the Broom Flowers as one, but as there are two Kinds of Broom, I think it necessary to observe that the Spanish is much preferable to the English on Account of the Sweetness of its Flowers, which perfume the Air very agreeably, and from which the Bees extract more Sweetness than from any other Sort I have mentioned, and when the Bees have Flowers suitable to their Taste, I have known them fill their Hive both with Wax and Honey in about a Month or five Weeks, if the Season has proved fair and pleasant.

Though Bees collect good Honey from most Herbs and Flowers, yet as there are many which may be very prejudicial to the Honey, Care should be taken to remove the Plants which afford noxious Juices, such as Hemlock, Nightshade, Red Poppy, Feverfew, Black-Briony, &c. &c.

Boxwood and Yew should likewise have no Place in the Bee-Garden as the Juices imbibed from those Plants will give the Honey a bitter disagreeable Flavour, as is the Case with the Corsican Honey taken Notice of by Diodorus Siculus and Pliny, the former of

which affirms that the Box-trees of Corfica corrupt and embitter the Honey; which makes Virgil's Lycidas wish

Sic tua Cynæas fugiant Examina Taxos.

————— So may thy Bees refuse
The baneful Juices of Cynæan Yews.

And Pliny speaking of the Excellence of Wax, after mentioning the Punick, the Pontick, and the Cretan, says, “ *Post has Corfica*
‘ *(Cera) quoniam ex Buxo fit habere quandam*
‘ *Vim Medicaminis putatur.* After these the
‘ Corfican Wax, because it is made from the
‘ Box Tree, is reckoned to have a certain me-
‘ cinal Virtue.’

We are told by a late Writer that when Corfica was subject to the Romans, a Tribute was imposed upon it of no less than two hundred thousand Pounds of Wax yearly, but this is no Proof of the Excellence of their Honey, which according to Ovid was of very ill Account, and seems to be rather the Reason why the Tributary Tax was exacted in Wax preferably to Honey.

C H A P.

C H A P. V.

*Of the proper Method of Swarming and
Hiving Bees.*

THE Time of Bees swarming is generally in the Months of May and June, and sometimes in July, but that is very late, and is commonly called a Cast, or Colt; these are fewer in Number than the earlier Swarm, and seldom live through the Winter without feeding. They should be hived rather in smaller Hives than the first Swarms, that by lying closer together, they may the better nourish and keep themselves warm.

The Hours of their swarming are for the most Part about Twelve o'Clock at Noon, never before Eleven, and seldom after Four in the Afternoon. We may give a pretty tolerable Guess that their Swarming is near, by the uncommon Number of Bees at the Mouth of the Hive, which may very probably hang down below the Board on which they stand; and if by listening at the Hive at Night, you hear a different shrill Note which is made by the Queen, you may depend they will swarm the next Day, if the Weather be dry and warm.

The Swarm which leaves the Hive does not consist of young Bees only, as many have affirmed, for I am confident that they go out promiscuously old and young together.

If

If they work a Comb under the Board, as is sometimes the Case, it is a certain Sign that they will not swarm; when this happens raise the Hive, and put one of my flat-topp'd sliding Hives under it, then gently sweep them down that hang under, and destroy their Works, and the Bees will take to the Bottom Hive.

Always choose a Hive proportionable to the Size of your Swarm, and prepare to hive them as soon as possible, lest they should rise again; and to prevent another Swarm joining with them.

'Tis not unusual to ring a little Bell, or tinckle a Brass Pan at the Time they have swarmed; this Sound makes an Impression upon them and almost instantaneously composes their Disorder; they may possibly mistake it for Thunder, and to be the Fore-runner of a heavy Storm, for they will very soon make to the Hive prepared for them by way of Shelter.

'Tis likewise a common Method to dress the Hives with Honey, Balm, &c. to make the Bees take to them. I mention this and the above because it is a Custom of long standing. The tinkling of Bells is of little use as the Bees will always settle near the Hive, and as to dressing of the Hives I by no means recommend it, as the Bees like a clean new Hive much best.

If the Swarm should rise in the full Heat of the Day, and the Sun shines hot upon them

them, they will not continue long in their first Situation; for when they find they have got all their Company together, they will soon uncluster, rise again, and be gone, and fly to some particular Spot which has been fixed upon for that Purpose, by detached Parties who return and acquaint the Swarm therewith; but if no convenient Place can be found before their Swarming Time for that Day is over, and the Bees still continue unhived, they will hang there till the next Day. Therefore I would advise to hive them as soon as possible, for if the Day is not too far spent, they will immediately set to work in their new Habitation, and not only make a considerable Quantity of Comb, but also fill much of it with Honey before Night.

The Manner of hiving them must be regulated chiefly by the Nature of the Places upon which they alight.

If they settle on a dead Hedge, or upon the Ground, set the Hive over them, putting Props under it if necessary, and with a Brush of wet Weeds stir them softly underneath, and they will go in.

If they should happen to settle upon a small Bough, you may cut off the Bough, and laying it gently on a Cloth, place your Hive over them.

If you cannot conveniently separate the Bough from the Body of the Tree, you may sweep them off into the Hive.

If

If they have hung for a considerable Time to the Place where they first settled, you will perhaps find it difficult entirely to disengage them therefrom, as they will neglect their Labour, and hanker about the Place for some Days afterwards; the best Method to prevent this is by rubbing the Branches with Rue or any Kind of Herb disagreeable to them.

Second Swarms, unless they be early, and from very large Stocks, seldom thrive alone, and are not worth keeping single, I would therefore advise the uniting two or three together, by which you may make them equal in Goodness to a first Swarm; this may easily be done, with the Loss of a very small Number of working Bees, and one or two Queens (according to the Quantity of Bees you propose in this Manner to unite) because as I have before observed they will suffer but one Sovereign to reign over them.

In this Case hive the largest Cluster first, and set it down towards the other; then shake the smaller Cluster into an unspleated Hive, and when you have got them in, knock them down close by those you hived first, and they will go together, and if in doing this you can luckily discover the Queen which commanded the second Cluster, take her entirely away, for by not suffering her to enter the Hive you will save the Lives of many of your working Bees; otherwise a Battle would ensue, and continue till one of the Queens was killed in the Engagement.

Swarms



Form of Stives and Bee-Hives.

Fig. 1.

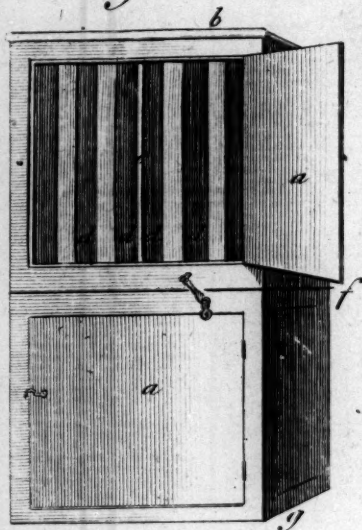


Fig. 4.

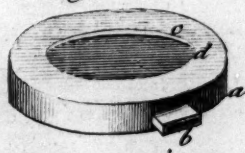


Fig. 5.



Fig. 2.

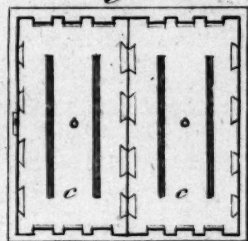


Fig. 5.

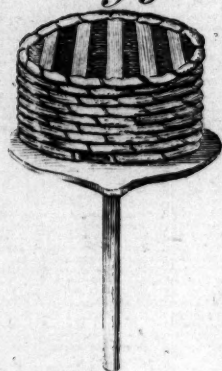
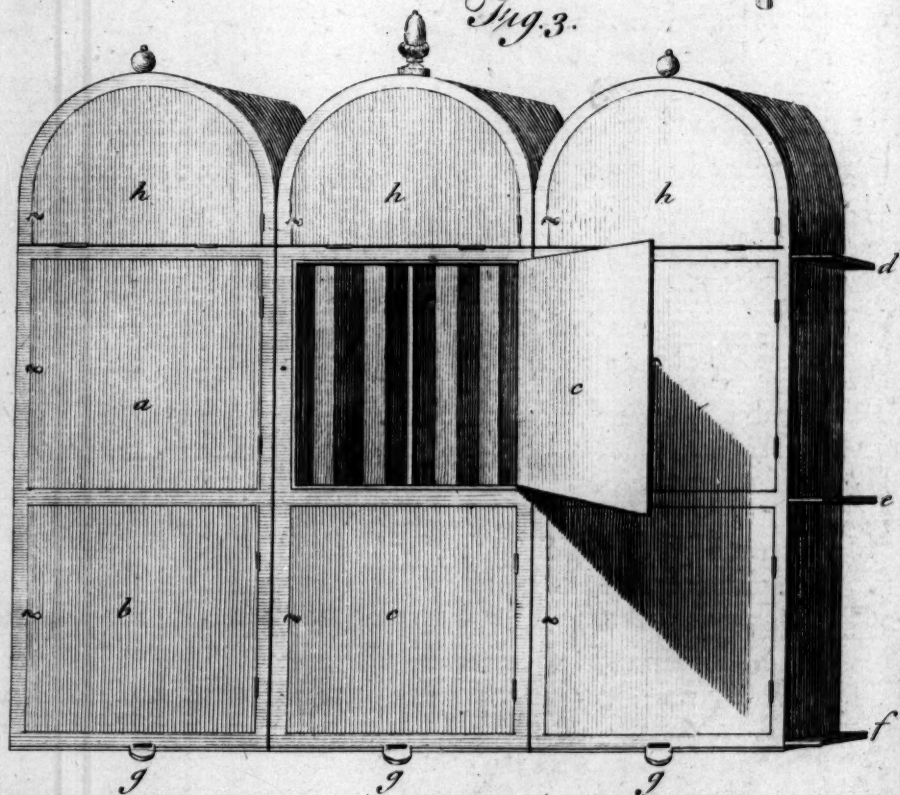


Fig. 3.



Swarms seldom return home again when they are well settled, and if you find them inclineable so to do, depend upon it some Accident has happened to the Queen, which you will easily perceive by their mournful murmuring Noise, running in a distracted Manner before and about the Sides of the Hive. When you observe this, immediately seek about for her, beginning at the Stock where she rose, and pursuing the Track the Swarm took at setting out, you will seldom miss of finding her, for she is never alone, but encompassed with a Guard who will not leave her though they starve in the Place. When you have found her, take her up gently and carry her to the Swarm, and you will soon find the Cause of their Dissatisfaction removed by the Arrival of their Queen.

The greatest Care imaginable must be taken to have your Hives clean and neat, free from loose Straws or other Obstacles, which will create great Trouble to the Bees, if left to them to be removed.

D C H A P.

C H A P. VI.

Of separating the Honey and Wax.

WHEN you would divide the Honey from the Wax take it into a close Room, rather warm than otherwise, that the Honey may drain the more freely, and keep the Doors and Windows shut, to obstruct the Bees Entrance, or else they will be very troublesome, and fetch Part of the Honey away again.

Lay aside such Combs as have young Bees in them, as it would give your Honey a bad Flavour.

When you have thus separated the Combs and the Bee-Bread which should be melted with the Wax, let such as are to be drained be nicely cleaned from Insects or any other Impurity adhering to them, after which dividing the Comb in such Manner that the Cells may be open at both Ends, place them upon a Sieve or coarse Cloth that the Honey may drain off pure and undefiled.

The Remainder of the Combs from which the Honey has been thus drained away, together with those which contain the Bee-Bread, and those with the young Bees in them which you had laid aside, should be put into a Copper, with clean Water; make this boil gently over a slow Fire, keeping it constantly

stantly stirring. When it is melted run it through Bags made for that Purpose, and put it into a Press to separate the Wax. Let the Wax run from the Press into a Vessel placed under it, into which put some Water to prevent it from sticking to the Vessel. If this Process of boiling and Pressing is repeated twice or even three Times, the Wax will be much purer and consequently of greater Value. Set it in a Place where it may cool by Degrees in Pans of the Size you would chuse your Cakes, with some Water in them, to prevent its adhering to the Sides.

C H A P. VII.

Of their Enemies and Sickneses.

BEES themselves in the Autumn and Spring are very often great Enemies to, and rob one another, especially in dry Seasons when the Honey-gathering is almost over, then the Hives that are over-stocked with Bees, and have not Honey sufficient for their Provision, will through Necessity attack the old Stocks, which are thinned by over-swarming, and carry away all their Honey. In order to prevent this the best Method I can advise is to stop up the Entrance of the Hive attempted

to be robbed, by making it so narrow that only a few Bees can enter at a Time, by which means the old Stock will be the better able to defend themselves.

One would imagine the Moth to be an Enemy of no Consequence but herein we shall greatly deceive ourselves, for upon proper Inspection we shall find that the Moth is a greater Destroyer of Bees, than all the rest of their Enemies put together. She deposits her Eggs under the very Skirts of their Hives, and the genial Warmth proceeding from the Bees, gives Life to the Eggs, the certain Means of their Destruction. These Eggs, when hatched, produce a small whitish Caterpillar which spins itself a fine filken Webb, nearly resembling that of a Spider, by which it secures itself from the Bees, who avoid them through Fear of being entangled therein. These Caterpillars soon increase in Magnitude, and enlarge their Nets or Webbs, till they can get at the Combs, then thrusting out their scaly Heads, which are Proof against the Stings of the Bees, they make such terrible Havock in the Comb, that the poor distressed Inhabitants, unable to oppose them, are obliged to quit the Hive.

Mice are likewise very destructive to Bees; sometimes they enter at the Door, but most commonly near the Top of the Hive, if you suspect this to be the Case, set Traps about the Hives.

Wasps

Wasps and Hornets must be destroyed, if possible, either by scalding Water, or placing lime Twigs before the Holes, when you have discovered their Nests, which will greatly lessen their Numbers.

Spiders must be killed and their Nets broken down, otherwise they will destroy many Bees, and grow to an immense Bigness.

Carefully drive away Moths, Snails, and Ants, and keep the Bee-house as clean as possible from all Kinds of Vermin, more particularly from Millepedes, or Wood-lice, which are very great Enemies to the Bees.

The Bees are sometimes seized in the Spring with a Kind of Purging or Scowering; this is occasioned by their feeding too greedily on the early Blossoms of the Elm, which throws them into a Surfeit, and will certainly kill them unless timely prevented. The best Remedy I have found for this Disorder is to pound common Salt very fine, and sprinkle it thick under the Hive.

C H A P. VIII.

Of Feeding Bees in the Winter Season.

MANY Things are necessary for the Preservation of Bees, but more especially you must take Care to provide them a sufficient Quantity

Quantity of Food, which they are often unable to attain by their own Industry, either through the Inclemency of Seasons, the Weakness of the Stock, or the Spoil made by their Enemies, and sometimes by the ill-judged Management of their Owners, who through Ignorance or Covetousness by robbing them beyond the Bounds of Reason, do not leave a sufficient Quantity in the Hive to support them at such Time as they are unable to provide for themselves. By this last unjust Way of Proceeding these poor industrious little Insects are absolutely starved, and their greedy Masters deservedly experience the old Proverb, that *Too much Covetousness breaks the Bag.*

It is impossible to ascertain what Quantity of Honey will serve a Hive of Bees the whole Winter, because the Numbers in the Hive may be more or less, and because in some Years the Spring is more forward than in others; but the best Method to supply the weak Stocks, if in one of my flat-top'd Hives, is to place a reserved Hive over it, with as much Honey in it as you think necessary, then pull back the Slider, and the Bees will supply themselves.

But for the common Hive you may place under it a Pewter Dish with liquid Honey, covering it with a Paper pierced full of little Holes, through which the Bees may draw up the Honey without daubing themselves.

This

This Method of feeding them should be used before the Bees are in absolute Want of Food, otherwise they will be so poor and weak, that they will not be able to come down; when that happens, it will be necessary to turn up the Mouth of the Hive in the Heat of the Sun, or near a Fire, and to drop a little liquid Honey among them.

By this Means you may preserve the Stock when confined by the Inclemency of the Season, and continue it constantly till the Weather changes.

To prevent the Cold which would chill and even kill the Bees in the Winter when they come down to the Bottom of the Hive to feed, I would advise to plaister up the Skirts of the Hives, and let the Entrance be very small.

Never let the Hives be placed on Stones, for they are injurious to the Bees at all Seasons, by reason of the Extremity of the Cold in Winter, and the intense Heat in Summer.

I have thus far confined my Observations chiefly to the Management of Bees in the common Hives; I shall now proceed to an Explanation of my Mahogany and Glass Hives of a new-invented Construction, so much approved of by the Nobility and Gentry, and in the Course of that Explanation shall give an Account how to manage the Bees in each of the different Hives.

C H A P IX.

EXPLANATION OF THE HIVES

ON THE NEW CONSTRUCTION.

N U M B E R I.

The flat-topped Straw Hive, with Slider.

THIS Hive, though of a very plain Construction, and easy Price, is extremely convenient and beneficial, and the Advantages arising from the Use of it, are such as must appear obvious to every one at first Sight; for it not only gives us an Opportunity of taking a treble Quantity of Honey to what we should otherwise do, but is likewise a great Means of preserving the Bees in the Winter, as it is of a Size sufficient to keep them in during that Season.

This Hive is principally designed for the better taking the Honey and Wax (without killing the Bees) from the common round-topped Straw Hives in which Bees are kept in most Parts of the known World, and is to be used in the following Manner;

When

When the Bees swarm, let them be hived in a common round-topped Hive, and set upon the Stands, or in the Bee-house in the Garden, and let them work in that Hive about three Weeks, in which Time, if the Season is good, and the Weather favourable, they will have filled that Hive as full as possible. Was it to stand in that Manner the whole Season, they could never fill it with Honey and Wax, as there must be Room in the Hive to contain themselves.

Therefore in Order to have your Hive compleatly filled, and the Opportunity of taking it away without injuring the Bees, at three Weeks End, if you find that your round-topped Hive is well stored, and the Bees want more Room, let it be lifted up gently in the Evening, and place under it one of my flat-topped Hives, drawing back the Slider till it is clear of the Bars, and be careful to place the Mouth of your common Hive directly over the Slider, and let it be stopped up close with Cow Dung or Clay, at the same Time plaister a little round the Skirts, as by so doing you will keep out the Moths and all Kinds of Vermin.

In the Course of Ten Days or a Fortnight you may examine whether the Bees have worked themselves out of the upper Hive, and if you find they are got into the under Hive, shut to the Slider, and take the top Hive entirely away. But as it sometimes happens, especially in large early Swarms,

E that

that one flat-topped Hive will not be sufficient, therefore in such Cases you must add a second, using the same Precautions in placing it properly, as above directed for the first; and when you take the first round-topped Hive away you may put another round one on the first flat one, and take the second away, otherwise let the second remain and the Bees will fill the first flat Hive, as they always begin at the highest Place and work downwards.

By proceeding in this manner you keep the industrious Bees continually supplied with Room, as they would much rather work, than lie idle, and you likewise have the Opportunity of taking away the Honey and Wax as fast as they can gather it. I cannot be certain in the Quantity you will take, as it depends so much upon the Goodness of the Season, which sometimes will admit of only taking one Hive, sometimes too, and very often three. This is to be done in the Months of May and June. I would never recommend the taking away the Honey after July, lest the Autumn should prove unfavourable, and the Bees want it for Sustenance in the Winter.

NUMBER II.

NUMBER II.

*The Mahogany Hive with Partitions and
Glasses.*

THIS Hive is of a very curious and elegant Construction, suitable either for the Parlour or Chamber, and is one of the most ingenious Productions for the Purpose for which it is intended, ever yet invented : There are five Glasses on the Top of it for the Bees to work in, which are to be taken away when filled with Honey. To prevent the Bees getting out on removing these Glasses you may shut them in with the moveable Buttons, or place fresh Glasses in the Room. of those you take away. Thus, besides the Opportunity it gives of taking the Honey in small Quantities, and having it always fresh, you will have the agreeable Entertainment of observing the curious Manner in which they construct their Combs, and with what nice Order and Sagacity they deposit their Honey. The Hive itself is square, and is provided in the Inside with three sliding Partitions in which the Bees are obliged to work if you do not continually supply them with Glasses on the Top ; and you have also the Opportunity of seeing them at work in the different Partitions by opening the Side Doors, as the Bees are inclosed with large Glass Panes on every Side. The Method of
taking

taking the Comb out of the Partitions is thus; when they have filled one Partition, they leave it and go to work in another; you may then take the full one, and having emptied it by cutting out the Comb, put the Partition into its proper Place again; the Bees in the mean Time will continue to work in the other Partitions till they have filled them, and will then return to the empty one, so that notwithstanding the Smallness of the Hives, the Bees will never cease working through want of Room, as is frequently the Case in other Hives. To use this Hive, you must first have a little Shelf fitted to the Bottom of the Window where you purpose to have it stand, and take care to place it quite even and close to the Sash on the Inside, in the Bottom of which there must be two little Holes cut out answerable to those in the Hive made by the Sliders, that when the Bees alight on the Outside they may have a free Passage in and out.

When you hive a Swarm into one of these Hives, open one of the Side Doors, and take out the Glass, which is only fastened in with Tacks, and securing the other Doors and the Buttons on the Top, hold the open Side of the Hive under the Bees, and shake them into it, as you would into a common Hive, and they will take to it equally the same; in the Evening, when the Side Glass is replaced, move aside the Buttons and put on the Top Glasses, but take particular Care they are darkened,

darkened, otherwise they will not work in them at first, but you may afterwards look at them as often as you please.

N U M B E R III.

*The Mahogany Hive with Glasses on the Top,
without Partitions.*

THIS Hive answers every Purpose of seeing the Bees work, but we have not the Opportunity of taking the Honey so often from this Hive, as from that of Number II. with the Partitions; nor indeed will it be necessary to do it oftener than once in two Years, as you will always give the Bees sufficient Room to work by supplying them with fresh Glasses, and the principal Reason of taking it from the Hive is that the Combs therein may be taken out while they remain white and fine. This Hive is to be used in the same Manner with that of Number II. only it has a Slider at the Bottom, which is to be taken out when you hive the Bees, instead of taking out one of the Side Glasses. When you would take the Honey out of the Box, raise it on one of my flat-topped Straw Hives with Slider, and drawing back the Slider of the Mahogany one exactly to match with that in the lower one, the Bees will gradually work themselves down, and in about ten Days or a Fortnight will have filled the upper one quite full, you must then shut

to

to the Slider of the Straw Hive, and having taken the Honey and Wax away from the Mahogany one, set it on the flat-topped one again as before, and drawing back the Sliders, the Bees will immediately go up, after which you may take the lower Hive away, and on placing your Glasses, the Bees will work in them as before.

N U M B E R I V .

The flat-topped Hive with Glasses only.

THIS Hive is admirably well contrived for the Garden ; it is provided with eight Glasses on the Top, in which the Bees work all at the same Time. This should always be kept covered over with a large round-topped Straw Hive, unless at such particular Times as you would chuse to see their Manner of working ; the Method of taking the Honey by the Glasses is as before directed, only as there are no Buttons to the Top of the Hive you must always have a spare Glass ready to place in the Room of that you take away. About the Month of July it should be raised upon one of my flat-topped Hives with the Slider, otherwise there will not be Room for the Bees to store Honey enough for them to subsist upon in the Winter.

When you put a Swarm into this Hive, put a Board over the Holes to prevent the
Bees

Bees passing through when you shake them into it; when the Bees are settled in the Dusk of the Evening, take off the Board and slip on the Glasses, covering them over as above-directed.

I have thus far compleated my proposed Treatise on the Bees, and if any Difficulty in the Cultivation of them should occur to those Gentlemen, Ladies, and others who have already or may hereafter favour me with their Commands, I shall always be willing to satisfy them to the best of my Abilities, and constant Attendance will be given at my Repository for the Purpose of supplying their Orders with Virgin Honey, new-invented Hives, and with any Quantity of Bees from one Stock to a Hundred.

F I N I S.

2
1794
These passing through when you make them
interior; when the Bees are settled in the
Bee of the Evening, take off the Board and
the on the Glass, covering them over as
above directed.

I have thus far completed my proposed
Treatise on the Bee, and it may possibly be
the Collection of them should occur to the
Gentlemen, Ladies, and others who have a
ready or any hearty favour me with their
Commands. I shall always be willing to in-
terest them to the best of my Ability, and
constant Attendance has given at my Ho-
plicity for the Bee, supplying their
Orders with Vigour and new-invented
Invent, and with any other of their
one Stock to a hundred.



P I N I S